

# SCIENTIFIC PROGRAM



**SUNDAY, SEPTEMBER 12, 1999**

Registration opens, America South Foyer, 12 noon  
Poster Session I mount, Staffordshire Room and America South,  
12 noon to 1:30 p.m.

## *OPENING REMARKS*

1:30 p.m.

**Dr. Charles N. Serhan, Professor**  
Center for Experimental Therapeutics and  
Reperfusion Injury  
Brigham & Women's Hospital  
and Harvard Medical School



**SUNDAY,  
SEPTEMBER 12**

**Page  
No.**

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**PLENARY LECTURE I -- BENGT SAMUELSSON**

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**America South**                      Introduction by **Dr. Lawrence J. Marnett**, Professor,  
Vanderbilt University School of Medicine

1:45 - 2:30 p.m.                      Plenary Presentation

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**PLENARY LECTURE II -- E.J. COREY**

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**America South**                      Introduction by **Dr. Edward A. Dennis**, Professor,  
Chemistry, University of California at San Diego

2:30 - 3:15 p.m.                      Plenary Presentation

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**SESSION 1                      INFLAMMATION (Leukotrienes & Lipoxins)**

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**America South**                      Chairperson: **Dr. Leslie J. Crofford**  
Co-Chair:     **Dr. K. Frank Austen**

*Invited Talks (25 min. plus 5 min. discussion)*

3:30 p.m.                      Prostaglandin Production and Actions in Synovial Tissues -     1  
**L. Crofford**

4:00 p.m.                      Salicylates, But Not Glucocorticoids, Inhibit Leukocyte     2  
Accumulation by an Adenosine-Dependent Mechanism that  
is Independent of Inhibition of Prostaglandin Synthesis and  
p105 (p50) of Nuclear Factor Kb - **G. Weissmann**

*Selected Talks (15 min. plus 5 min. discussion)*

4:30 p.m.                      Anti-Inflammatory Actions of Lipoxin-A<sub>4</sub> Stable Analogs     3  
in Human Whole Blood: Modulation of Leukocyte Adhesion  
Molecule Expression and Inhibition of Neutrophil-Endothelial  
Interactions - **J. Filep**

4:50 p.m.                      Leukotriene B<sub>4</sub> Receptor: Structure, Transcriptional     4  
Regulation, and Intracellular Signaling - **T. Yokomizo**

5:10 p.m.                      Endotoxin Induction of Luciferase Activity in Mice     5  
Transgenic for a COX-2 Promoter-Luciferase Reporter  
Construct - **A. Freeman**

5:30 p.m.                      Interactions Between 5-oxo-ETE and Eotaxin in     6  
Stimulating Eosinophil Chemotaxis - **W.S. Powell**

**SUNDAY,  
SEPTEMBER 12**

Page  
No.

**SESSION 2**

**CANCER & SYNTHESIS OF NOVEL  
INHIBITORS**

**Essex East**

Chair: Dr. Lawrence J. Marnett

Co-Chair: Dr. Yusuf A. Hannun

*Invited Talks (25 mins. plus 5 min. discussion)*

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|-----------|---|---|
| 3:30 p.m. | Novel COX-2 inhibitors as Cancer Chemopreventive and Antiangiogenic Agents - <b>L. Marnett</b>  | 7 |
| 4:00 p.m. | Update on Eicosanoids in Prostate Cancer - <b>K. Honn</b>                                       | 8 |
| 4:30 p.m. | Lysolipid Phosphate Receptors and Effects in Ovarian and Breast Cancer Cells - <b>E. Goetzl</b> | 9 |

*Selected Talks (15 mins. plus 5 min. discussion)*

- |           |  |    |
|-----------|--|----|
| 5:00 p.m. | Growth Stimulation and Epidermal Growth Factor Receptor Induction in Cyclooxygenase-overexpressing Human Colon Carcinoma Cells - <b>T. Yoshimoto</b>       | 10 |
| 5:20 p.m. | Cox-2 Inhibitor Enhances Tumor Radioresponse <i>in vitro</i> and <i>in vivo</i> - <b>S. Petersen</b>   | 11 |
| 5:40 p.m. | Chemopreventive Properties of Nimesulide, a Selective Cyclooxygenase-2 Inhibitor, against PhIP-induced Mammary Carcinogenesis in Rats - <b>T. Kawamori</b> | 12 |
| 6:00 p.m. | Determination of Cyclooxygenase and Arachidonic Acid Metabolites in Invasive Human Prostate Cancer Cells - <b>K. Nithipatikom</b>                          | 13 |

6:00-7:30 p.m.

**Welcome Reception**

**Westin Hotel**

(America North and Center)

**SUNDAY,  
SEPTEMBER 12**

**Page  
No.**

---

<b>SESSION 3</b>	<b>ENZYMES-LIPOXYGENASES/ CYCLOOXYGENASES &amp; INHIBITORS</b>
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**Essex West**

Chair: Dr. William L. Smith  
Co-Chair: Dr. Jesper Haeggstrom

*Invited Talks (25 mins. plus 5 min. discussion)*

3:30 p.m.	Molecular Interactions of Arachidonic Acid with Prostaglandin Endoperoxide H Synthase-1 - <b>W. Smith</b>	14
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4:00 p.m.	Structure and Function of Leukotriene A <sub>4</sub> Hydrolase - <b>J. Haeggstrom</b>	15
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4:30 p.m.	Prostaglandin E Synthase: A Microsomal, Glutathione Dependent, Inducible Member of the MAPEG Superfamily - <b>P.-J. Jakobsson</b>	16
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*Selected Talks (15 mins. plus 5 min. discussion)*

5:00 p.m.	Crystal Structures of Cyclooxygenase-2 Variants with Diarylheterocycle Inhibitors: Contribution of the Side Pocket for Selectivity - <b>R.G. Kurumbail</b>	17
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5:20 p.m.	Peroxidase Kinetic Differences and Cyclooxygenase Catalytic Control in PGH Synthase-1 and -2 - <b>R.J. Kulmacz</b>	18
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5:40 p.m.	Manganese-Lipoxygenase: A Novel Model of Lipoxygenation - <b>C. Su</b>	19
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6:00 p.m.	The Mechanistic Reasons for the Positional Specificity of Lipoxygenase Effective Conversion of 5-Lipoxygenases to a 15-Lipoxygenating Species - <b>H. Kuhn</b>	20
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6:00-7:30 p.m.	<b>Welcome Reception</b> <b>Westin Hotel</b> (America North and Center)
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**MONDAY  
SEPTEMBER 13**

Page  
No.

---

**PLENARY LECTURE -- DR. L. JACKSON ROBERTS**

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**American South**                      Introduction by **Dr. Santosh Nigam**,  
Eicosanoid Research Division,  
Free University Berlin

8:00-8:45 a.m.                      Plenary Presentation

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**SESSION 4                      VASCULAR BIOLOGY**

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**America South**                      Chair:            Dr. Garrett A. FitzGerald  
Co-Chair:       Dr. Michael A. Gimbrone, Jr.

*Invited Talks (25 mins. plus 5 min. discussion)*

9:00 a.m.                      Eicosanoids and Isoeicosanoids and the Cardiovascular System - **G. FitzGerald**                      21

9:30 a.m.                      Vascular Endothelium: An Integrator of Biomechanical Stimuli in the Cardiovascular System - **M. Gimbrone**                      22

10:00 a.m.                      *Coffee Break*

*Selected Talks (15 mins. plus 5 min. discussion)*

10:30 a.m.                      Vasodilation Produced by Prostaglandin F<sub>2α</sub> is FP Receptor Mediated and Nitric Oxide and Endothelium Dependent - **J. Chen**                      23

10:50 a.m.                      Modification of Low Density Lipoproteins with Phospholipase A<sub>2</sub> Forms Small, High Density Particles with Increased Affinity for Proteoglycans & Glycosaminoglycans - **P. Sartipy**                      24

11:10 a.m.                      Lipoxins: Anti-inflammatory Actions - **H. Brady**                      25

11:30 a.m.                      Leukotrienes and the Pulmonary Vascular Bed - **C. Brink**                      26

**12:00-1:00 p.m.                      LUNCH BREAK**

**POSTER SESSION I                      SEE NEXT PAGE**

**MONDAY,  
SEPTEMBER 13**

Page  
No.

---

<b>SESSION 6</b>	<b>INTRACELLULAR LM &amp; TARGETING</b>
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**Essex West**

Chair: Dr. John D. Scott  
Co-Chair: Dr. Roy Soberman

*Invited Talks (25 mins. plus 5 min. discussion)*

9:00 a.m.	The Molecular Architecture of Kinase/Phosphatase Signaling Complexes - <b>J. Scott</b>	27
9:30 a.m.	A Novel Ca++ -Independent Transduction Mechanism for LTD <sub>4</sub> - Induced Contraction of Human Bronchi - <b>S. Nicosia</b>	28
10:00 a.m.	<b>COFFEE BREAK</b>	
	<i>Selected Talks (15 mins. plus 5 min. discussion)</i>	
10:30 a.m.	Localization and Translocation of Enzymes Involved in the Synthesis of Leukotrienes - <b>T. Izumi</b>	29
10:50 a.m.	Regulation of the p21-Activated Protein Kinases in Neutrophils by Phosphoinositides and Sphingolipids - <b>J. Badwey</b>	30
11:10 a.m.	Role of Phosphatidylethanolamines in G Protein Receptor-Associated Signal Transduction - <b>P. Escriba</b>	31
11:30 a.m.	Do Leukotrienes Reduce Apoptosis? - <b>J. Ohd</b>	32
11:50 a.m.	Beneficial Effects of 5-Lipoxygenase Activating Protein Inhibition in Accelerated Nephrotoxic Serum Nephritis and Passive Heymann's Nephritis in Rats - <b>K. Munger</b>	33
12:10 p.m.	Inhibition of 5-LO Activating Protein Activity Decreases Proteinuria in Streptozotocin-Induced Diabetic Rats - <b>J. Valdivielso</b>	34
12:00-1:00 p.m.	<b>LUNCH BREAK</b>	

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**POSTER  
SESSION I**

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**Staffordshire and America South**

Chair: Dr. Kenneth V. Honn  
Co-Chair: Dr. Charles N. Serhan

**1:00 - 2:30 p.m.                      Presentations and poster tour**

**MONDAY,  
SEPTEMBER 13**

**Page  
No.**

---

<b>SESSION 8</b>	<b>PHOSPHOLIPASES</b>
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**Essex East**

Chair: Dr. Edward Dennis  
Co-Chair: Dr. Joseph Bonventre

*Invited Talks (25 mins. plus 5 min. discussion)*

9:00 a.m.	Distinct Function of Each Type of Phospholipase A <sub>2</sub> and Cyclooxygenase in Eicosanoid Production - <b>E. Dennis</b>	35
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9:30 a.m.	Insights from Cytosolic PLA <sub>2</sub> Knockout Mouse - <b>J. Bonventre</b>	36
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10:00 a.m.	<b>COFFEE BREAK</b>	
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10:30 a.m.	Role of Cytosolic Phospholipase A <sub>2</sub> <i>in vivo</i> and <i>in vitro</i> - <b>T. Shimizu</b>	37
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*Selected Talks (15 mins. plus 5 min. discussion)*

11:00 a.m.	Functional Coupling Among Phospholipase A <sub>2</sub> s, Cyclooxygenases, and Terminal Prostaglandin Synthases in Immediate and Delayed Prostanoid Biosynthetic Pathways - <b>M. Murakami</b>	38
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11:20 a.m.	Cytosolic Phospholipase A <sub>2</sub> is Essential for Both the Immediate and the Delayed Phases of Eicosanoid Generation in Mouse Bone Marrow-Derived Mast Cells - <b>B. Diaz</b>	39
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11:40 a.m.	Investigation into the Involvement of Phospholipases A <sub>2</sub> and MAP Kinases in Modulation of AA Release Cell Growth in A549 Cells. - <b>Q.G. Choudhury</b>	40
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12:00-1:00 p.m.	<b>LUNCH BREAK</b>	
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<b>POSTER SESSION I</b>
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<b>Staffordshire and America South</b>
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Chair: Dr. Kenneth V. Honn  
Co-Chair: Dr. Charles N. Serhan

<b>1:00 - 2:30 p.m.</b>	<b>Presentations and poster tour</b>
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**MONDAY,  
SEPTEMBER 13**

Page  
No.

**SESSION 5**

**ENZYMES II (PHARMACOLOGY)**

**America South**

Chair: Dr. Sven-Erik Dahlen

Co-Chair: Dr. Jeffrey M. Drazen

*Invited Talks (25 mins. plus 5 min. discussion)*

2:30 p.m.	Discovery and Development of COX-2 Specific Inhibitors - <b>J. Talley</b>	n/a
3:00 p.m.	Leukotrienes in Asthma - <b>J. Drazen</b>	41
3:30 p.m.	Antileukotrienes in Aspirin-Intolerant Asthma - <b>S.-E. Dahlen</b>	n/a

*Selected Talks (15 mins. plus 5 min. discussion)*

4:00 p.m.	Sp1 and Sp3 Function as Key Regulators of Leukotriene C4 Synthase Gene Expression in the Monocyte-Like Cell Line, THP-1 - <b>K. Serio</b>	42
4:20 p.m.	Down-Regulation of 5-Lipoxygenase Activity and Leukotriene Production by Prolonged Exposure to Lipopolysaccharide - <b>T. Brock</b>	43
4:40 p.m.	Characterization of a Distinctive Pharmacological Profile for LTC <sub>4</sub> Binding Sites in Human Lung Parenchyma Using a Kinetic Approach - <b>G.E. Rovati</b>	44
5:00 p.m.	The Constriction of the Human Pulmonary Artery by LTC <sub>4</sub> is Mediated Via a CysLT <sub>2</sub> Receptor and Counteracted by Prostacyclin Release - <b>M. Back</b>	45
5:20 p.m.	Analysis of Cyclooxygenase-Substrate Interactions Using Stereospecifically-Labeled Arachidonic Acids - <b>C. Schneider</b>	46
5:40 p.m.	Localization and Nature of a 5LO Calcium Binding Site - <b>T. Hammarberg</b>	47

**7:30 - 10:00 p.m.**

**RECEPTION AT FOGG MUSEUM,  
CAMBRIDGE (OPEN TO ALL REGISTRANTS)**

**MONDAY,  
SEPTEMBER 13**

Page  
No.

---

**SESSION 8                      PHOSPHOLIPASES**

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**Essex East**

Chair:            Dr. Edward Dennis  
Co-Chair:       Dr. Joseph Bonventre

*Invited Talks (25 mins. plus 5 min. discussion)*

9:00 a.m.	Distinct Function of Each Type of Phospholipase A <sub>2</sub> and Cyclooxygenase in Eicosanoid Production - <b>E. Dennis</b>	35
9:30 a.m.	Insights from Cytosolic PLA <sub>2</sub> Knockout Mouse - <b>J. Bonventre</b>	36
10:00 a.m.	<i>COFFEE BREAK</i>	
10:30 a.m.	Role of Cytosolic Phospholipase A <sub>2</sub> <i>in vivo</i> and <i>in vitro</i> - <b>T. Shimizu</b>	37
	<i>Selected Talks (15 mins. plus 5 min. discussion)</i>	
11:00 a.m.	Functional Coupling Among Phospholipase A <sub>2</sub> s, Cyclooxygenases, and Terminal Prostaglandin Synthases in Immediate and Delayed Prostanoid Biosynthetic Pathways - <b>M. Murakami</b>	38
11:20 a.m.	Cytosolic Phospholipase A <sub>2</sub> is Essential for Both the Immediate and the Delayed Phases of Eicosanoid Generation in Mouse Bone Marrow-Derived Mast Cells - <b>B. Diaz</b>	39
11:40 a.m.	Investigation into the Involvement of Phospholipases A <sub>2</sub> and MAP Kinases in Modulation of AA Release Cell Growth in A549 Cells. - <b>Q.G. Choudhury</b>	40
12:00-1:00 p.m.	<b>LUNCH BREAK</b>	

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**POSTER  
SESSION I**

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**Staffordshire and America South**

Chair:            Dr. Kenneth V. Honn  
Co-Chair:       Dr. Charles N. Serhan

**1:00 - 2:30 p.m.**

**Presentations and poster tour**

**MONDAY,  
SEPTEMBER 13**

Page  
No.

---

**SESSION 5                      ENZYMES II (PHARMACOLOGY)**

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**America South**

Chair:            Dr. Sven-Erik Dahlen

Co-Chair:      Dr. Jeffrey M. Drazen

*Invited Talks (25 mins. plus 5 min. discussion)*

2:30 p.m.	Discovery and Development of COX-2 Specific Inhibitors - <b>J. Talley</b>	n/a
3:00 p.m.	Leukotrienes in Asthma - <b>J. Drazen</b>	41
3:30 p.m.	Antileukotrienes in Aspirin-Intolerant Asthma - <b>S.-E. Dahlen</b>	n/a

*Selected Talks (15 mins. plus 5 min. discussion)*

4:00 p.m.	Sp1 and Sp3 Function as Key Regulators of Leukotriene C4 Synthase Gene Expression in the Monocyte-Like Cell Line, THP-1 - <b>K. Serio</b>	42
4:20 p.m.	Down-Regulation of 5-Lipoxygenase Activity and Leukotriene Production by Prolonged Exposure to Lipopolysaccharide - <b>T. Brock</b>	43
4:40 p.m.	Characterization of a Distinctive Pharmacological Profile for LTC <sub>4</sub> Binding Sites in Human Lung Parenchyma Using a Kinetic Approach - <b>G.E. Rovati</b>	44
5:00 p.m.	The Constriction of the Human Pulmonary Artery by LTC <sub>4</sub> is Mediated Via a CysLT <sub>2</sub> Receptor and Counteracted by Prostacyclin Release - <b>M. Back</b>	45
5:20 p.m.	Analysis of Cyclooxygenase-Substrate Interactions Using Stereospecifically-Labeled Arachidonic Acids - <b>C. Schneider</b>	46
5:40 p.m.	Localization and Nature of a 5LO Calcium Binding Site - <b>T. Hammarberg</b>	47

**7:30 - 10:00 p.m.**

**RECEPTION AT FOGG MUSEUM,  
CAMBRIDGE (OPEN TO ALL REGISTRANTS)**

**MONDAY,  
SEPTEMBER 13**

**Page  
No.**

---

**SESSION 7**

**ANANDAMIDES**

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**Essex West**

Chair: Dr. Shozo Yamamoto

Co-Chair: Dr. Vincenzo Di Marzo

*Invited Talks (25 mins. plus 5 min. discussion)*

2:30 p.m. Cannabimimetic Eicosanoids: an Overview of Their Metabolic Pathways and Potential Role in Cancer and Inflammation - **V. Di Marzo** 48

3:00 p.m. Catalytic Properties of Purified Recombinant Anandamide - Amidohydrolase - **N. Ueda** 49

*Selected Talks (15 mins. plus 5 min. discussion)*

3:30 p.m. Putative Metabolites of Anandamide: Activities and Occurrence - **S. Burstein** 50

3:50 p.m. Dopamine Activation of Endogenous Cannabinoid Signaling in Dorsal Striatum - **D. Piomelli** 51

4:10 p.m. Anandamide Induces Nitric Oxide-Independent Mesenteric Vasodilation Via a Novel Endothelial Site of Action - **G. Kunos** 52

**7:30 - 10:00 p.m.**

**RECEPTION AT FOGG MUSEUM,  
CAMBRIDGE (OPEN TO ALL REGISTRANTS)**

**MONDAY,  
SEPTEMBER 13**

Page  
No.

---

**SESSION 9**

**NEW APPROACHES TO CANCER  
AND GENE THERAPY**

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**Essex East**

Chair: Dr. Kenneth K. Wu  
Co-Chair: Dr. Thomas E. Eling

*Invited Talks (25 mins. plus 5 min. discussion)*

2:30 p.m.	Enhancement of Vascular Prostacyclin and Nitric Oxide Synthesis by Gene Transfer: Therapeutic Implications - <b>K. Wu</b>	53
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3:00 p.m.	Lipoxygenase and Colorectal Cancer - <b>T. Eling</b>	n/a
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*Selected Talks (15 mins. plus 5 min. discussion)*

3:30 p.m.	15-Lipoxygenase-1 Expression in Prostate Cancer: Correlation with Mutant p53 Expression and Histologic Grade - <b>U. Kelavkar</b>	54
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3:50 p.m.	COX-2 as a Target for Chemoprevention of Squamous Cell Carcinomas - <b>K. Muller-Decker</b>	55
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4:10 p.m.	Cyclooxygenase-2 Protein Varies with Tumor Progression in Experimental Colon Cancer - <b>C. Comphe</b>	56
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4:30 p.m.	Inhibition of Translation Initiation Mediates the Anticancer Effect of Eicosapentaenoic Acid - <b>J. Halperin</b>	57
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4:50 p.m.	13(S)-HpODE Modulates Mitogenic Signal Transduction Through Enhancing the Phosphorylation and Association of EGF Receptor with the Tyrosine Phosphatase SHP-2 - <b>W. Glasgow</b>	58
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**7:30 - 10:00 p.m.**

**RECEPTION AT FOGG MUSEUM,  
CAMBRIDGE (OPEN TO ALL REGISTRANTS)**

**TUESDAY,  
SEPTEMBER 14**

Page  
No.

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**PLENARY LECTURE      DR. JUDAH FOLKMAN**

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**America South**      Introduction by **Dr. Kenneth V. Honn**, Professor,  
Department of Radiation Oncology and Pathology  
Wayne State University

8:00-8:45 a.m.      Cryptic Fragments Within the Hemostatic System as  
Regulators of Angiogenesis

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**SESSION 10      ANGIOGENESIS: CANCER TREATMENT  
AND PREVENTION**

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**America South**      Chair:      Dr. Raymond N. DuBois  
Co-Chair:      Dr. Makoto M. Taketo

*Invited Talks (25 mins. plus 5 min. discussion)*

9:00 a.m.      Cyclooxygenase and Cancer - **R. DuBois**      59

9:30 a.m.      Role of COX-2 in Colon Tumorigenesis - **M. Taketo**      60

10:00 a.m.      **COFFEE BREAK**

*Selected Talks (15 mins. plus 5 min. discussion)*

10:30 a.m.      Relationship Between Apoptosis, Angiogenesis and  
Colon-26 Tumor Growth After Oral NSAID-Treatment -  
**J. Brown**      61

10:50 a.m.      Antitumor Effects of Piroxicam in Spontaneous Canine  
Invasive Urinary Bladder Cancer, a Relevant Model of  
Human Invasive Bladder Cancer - **D. Knapp**      62

11:10 a.m.      15-Lipoxygenase-2 in Human Epithelial Cells and Its  
Reduced Expression in Cancer - **A. Brash**      63

11:30 a.m.      Arachidonate 12-Lipoxygenase Stimulates Tumor  
Angiogenesis by Up-Regulation of Vascular Endothelial  
Growth Factor Expression - **D. Nie**      64

11:50 a.m.      Thromboxane A2 is a Mediator of COX-2 Dependent  
Endothelial Migration & Angiogenesis - **T. Daniel**      65

**12:00-1:00 p.m.      LUNCH BREAK**

**TUESDAY,  
SEPTEMBER 14**

**Page  
No.**

---

**SESSION 12**

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**INFLAMMATION (2)**

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**Essex West**

Chair: Dr. Pierre Borgeat  
Co-Chair: Dr. Santosh Nigam

*Invited Talks (25 mins. plus 5 min. discussion)*

9:00 a.m. Down-Regulation of Arachidonic Acid Release and  
Leukotriene Synthesis in Ligand-Activated Human  
Neutrophils by Autacoids - **P. Borgeat** 66

9:30 a.m. Studies on 3-Hydroxy-Oxylipins, a Group of Novel  
Eicosanoids Produced by Fungi - **S. Nigam** 67

10:00 a.m. **COFFEE BREAK**

*Selected Talks (15 mins. plus 5 min. discussion)*

10:30 a.m. EX-FABP, Extracellular Fatty Acid Binding Protein,  
is Modulated in Culture by Inflammatory-Antiinflammatory  
Agents and is Expressed *in vivo* During Chicken Embryo  
Development and in Inflammation - **F. Descalzi Cancedda** 68

10:50 a.m. Selective Inhibition of Cyclooxygenase-2 Attenuates  
Expression of Inflammation-Related Genes in CNS Injury  
Models - **M.K. O'Banion** 69

11:10 a.m. Endothelial COX-2 Induction by Hypoxia Liberates 6-keto-  
PGF<sub>1 $\alpha$</sub> , a Potent Epithelial Secretagogue - **S. Colgan** 70

11:30 a.m. Hepatocytes are a Rich Source of Novel Aspirin-  
Triggered 15-epi-Lipoxin A<sub>4</sub> - **J. Claria** 71

**12:00-1:00 p.m. LUNCH BREAK**

**TUESDAY,  
SEPTEMBER 14**

**Page  
No.**

**SESSION 14**

**NOVEL SIGNALING PATHWAYS &  
NETWORKS**

**Essex East**

Chair: Dr. Per Hedqvist

Co-Chair: Dr. Aaron J. Marcus

Invited Talks (25 mins. plus 5 min. discussion)

9:00 a.m. Roles of Ceramide in TNF Action - **Y. Hannun** 72

9:30 a.m. CD39/ecto-ADPase Blocks and Reverses Human Platelet Reactivity. Significance from Thrombosis - **A. Marcus** 73

10:00 *COFFEE BREAK*

10:30 a.m. Biology of Neutrophil-Epithelial Interactions - **J. Madara** 74

*Selected Talks (15 mins. plus 5 min. discussion)*

11:00 a.m. Regulation of Cell-Substrate Adhesion by Lipid and Kinase Second Messengers Activated by the Lipoxygenase and Cyclooxygenase Branches of Arachidonic Acid Metabolism - **B.S. Jacobson** 75

11:20 a.m. Lipopolysaccharide-Induced Formation of Prostanoids in Macrophages: Role of Phospholipase A<sub>2</sub> and Cyclooxygenases - **P. Dieter** 76

11:40 a.m. MK 886 Functions as a Radiomimetic Agent: Genomic Responses Related to Oxidative Stress the Cell Cycle, Proliferation and Programmed Cell Death in Panc-1 Cells - **K. Anderson** 77

**12:00-1:00 p.m. LUNCH BREAK**

**POSTER  
SESSION II**

**Staffordshire and America South**

Chair: Dr. S. Nigam

Co-Chair: Dr. L. Marnett

**1:00-2:30 p.m. Presentations and poster tour**

**TUESDAY,  
SEPTEMBER 14**

Page  
No.

---

**SESSION 11                      NITRIC OXIDE, COX-2 & APOPTOSIS**

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**Essex East**

Chair:            Dr. Patrick Wong  
Co-Chair:       Cecil R. Pace-Asciak

*Invited Talks (25 mins. plus 5 min. discussion)*

2:30 p.m.                      Live or Let-Die with Peroxynitrite: Evidence for Peroxy-                      78  
nitrite Mediates Mucosal Cell Apoptosis - **P. Wong**

3:00 p.m.                      Novel Eicosanoid Activators of Peroxisome Proliferator-                      79  
Activated Receptor in Macrophages - **S. Hammarstrom**

*Selected Talks (15 mins. plus 5 min. discussion)*

3:30 p.m.                      Prostaglandin Production is Significantly Decreased *in vivo*                      80  
in Mice Deficient in Inducible Nitric Oxide Synthase -  
**J.D. Morrow**

3:50 p.m.                      Inhibition of F2-Isoprostane Synthesis Reduces Proteinuria                      81  
and Improves Renal Function in Streptozotocin-Induced  
Diabetic Rats - **A. Montero**

4:10 p.m.                      Physical Interaction with  $\beta 4$  Integrin Regulates Arachidonate -                      82  
12-lipoxygenase Activity - **K. Tang**

4:30 p.m.                      Molecular Mechanisms of Prostate Cancer Cell Death                      83  
Upon Inhibition of Arachidonate 5-Lipoxygenase:  
Involvement of Fas/APO1-Mediated Signals - **J. Ghosh**

**7:30-10:00 p.m.**

**DINNER AT WESTIN HOTEL  
MUSIC  
PRESENTATION OF THE YOUNG INVESTIGATOR  
AWARDS - SPONSORED WITH BIOMOL  
RESEARCH LABORATORIES.**

**TUESDAY,  
SEPTEMBER 14**

**Page  
No.**

**SESSION 13**

**RECEPTORS & AGONISTS/ANTAGONISTS**

**America South**

Chair: Dr. Shuh Narumiya

Co-Chair: Dr. Takao Shimizu

*Invited Talks (25 mins. plus 5 min. discussion)*

2:30 p.m. Physiology and Pathophysiology of the Prostanoid Receptors: 84  
Lessons from Knockout Mice Studies - **S. Narumiya**

3:00 p.m. Structure-Activity Relationships of Hepoxilin Actions on 85  
Intracellular Calcium Levels in Human Neutrophils -  
**C. Pace-Asciak**

3:30 p.m. Targeted Gene Disruption of the Prostaglandin E2 EP2 86  
Receptor - **R. Breyer**

*Selected Talks (15 mins. plus 5 min. discussion)*

4:00 p.m. Activation-Dependent Internalization of the Human 87  
Prostacyclin Receptor - **E. Smyth**

4:20 p.m. The Design and Synthesis of Selective Prostaglandin 88  
Analogues as Bone Anabolic Agents for the Potential  
Treatment of Osteoporosis - **J. Wos**

4:40 p.m. PPAR Expression and Activity in Murine Skin Tumors - 89  
**S. Fischer**

5:00 p.m. Ocular Hypotensive Activity of Prostaglandin F<sub>2α</sub> Analogs 90  
with Neutral Substituents at Position 1 is Predicted by the  
Isolated Cat Iris Sphincter Smooth Muscle Preparation But  
Not Ca<sup>2+</sup> Signaling in Swiss 3T3 Cells - **R. Burk**

5:20 p.m. Signaling to Release Lysosomal Enzyme by Leukotriene 91  
B<sub>4</sub> and Platelet Activating Factor - **N. Ito**

**7:30-10:00 p.m.**

**DINNER AT WESTIN HOTEL**

**MUSIC**

**PRESENTATION OF THE YOUNG INVESTIGATOR  
AWARDS - SPONSORED WITH BIOMOL  
RESEARCH LABORATORIES.**

**TUESDAY,  
SEPTEMBER 14**

Page  
No.

**SESSION 15**

**EETs, LPAs AND ISOEICOSANOIDS**

**Essex West**

Chair: Dr. Jorge H. Capdevila

Co-Chair: Dr. Timothy T. Hla

*Invited Talks (25 mins. plus 5 min. discussion)*

2:30 p.m. Biochemical and Functional Properties of the P450 Arachidonic Acid Monooxygenase - **J. Capdevila** 92

3:00 p.m. EDG-1 Family of Sphingosine-1-Phosphate Receptors - **T. Hla** 93

*Selected Talks (15 mins. plus 5 min. discussion)*

3:30 p.m. Formation of Novel D-Ring and E-Ring Isoprostane-Like Compounds (Neuroprostanes) *in vivo* from Docosahexaenoic Acid - **E. Reich** 94

3:50 p.m. cP450 Epoxygenase Exerts Potent Cytoprotective Effects by a Dual Mechanism in Renal Epithelial Cells - **J.-K. Chen** 95

4:10 p.m. F2 and E2 Isoprostanes are Ligands for Peroxisome Proliferator-Activated Receptors  $\alpha$  and  $\gamma$  - **P. McNamara** 96

4:30 p.m. Characterization of Epidermal 12(S) and 12(R) Lipxygenases - **M. McDonnell** 97

**7:30-10:00 p.m.**

**DINNER AT WESTIN HOTEL - ESSEX NORTH  
MUSIC**

**PRESENTATION OF THE YOUNG INVESTIGATOR  
AWARDS - SPONSORED WITH BIOMOL  
RESEARCH LABORATORIES.**

**WEDNESDAY,  
SEPTEMBER 15**

Page  
No.

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**PLENARY LECTURE -- DR. EVA NEER**

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**America South**                      Introduction by **Dr. Peter Ramwell**, Professor,  
Department of Physiology,  
Georgetown University Medical Center

8:00-8:45 a.m.                      Plenary Presentation

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**SESSION 16**

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**ENZYMES & METABOLIC INACTIVATION**

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**America South**                      Chair:            Dr. Robert Murphy  
Co-Chair:       Dr. Hsin-Hsiung Tai

*Invited Talks (25 mins. plus 5 min. discussion)*

9:00 a.m.                      Free Radical Oxidation of Plasmenyl  
Glycerophosphocholine Containing Esterified  
Arachidonic Acid as an Alternative Pathway  
for Leukotriene Biosynthesis - **R. Murphy**                      98

9:30 a.m.                      Structure and Function of Prostaglandin Metabolic  
Enzymes - **H.-H. Tai**                      99

10:00 a.m.                      **COFFEE BREAK**

*Selected Talks (15 mins. plus 5 min. discussion)*

10:30 a.m.                      Purification and Characterization of Membrane-Bound  
Prostaglandin E Synthase from Bovine Heart -  
**K. Watanabe**                      100

10:50 a.m.                      cDNA Cloning and Mutagenesis Study of Live-Type  
Prostaglandin F Synthase, and Identification of the  
Prostaglandin F Producing Cells in the Liver -  
**T. Suzuki-Yamamoto**                      101

11:10 a.m.                      Lipoxin A<sub>4</sub> and Aspirin-Triggered 15-epi-LXA<sub>4</sub> are  
Protective in Acute Inflammation and Reperfusion Injury  
in Leukotriene B<sub>4</sub> Receptor Transgenic Mice - **K. Gronert**                      102

11:30 a.m.                      Snapshot of the Cylooxygenase Reaction Pathway:  
Structure of Prostaglandin at the Active Site of COX-2 -  
**J. Keifer**                      103

11:50 a.m.                      Substrate Down Regulation of the 12-Lipoxygenase  
in Human Platelets - **M. Dadaian**                      104

**WEDNESDAY,  
SEPTEMBER 15**

Page  
No.

**SESSION 17**

**KNOCK-OUT MODELS & GENE THERAPY**

**Essex East**

Chair: Dr. Colin D. Funk

Co-Chair: Dr. Kamal Badr

*Invited Talks (25 mins. plus 5 min. discussion)*

9:00 a.m. Lipoxxygenases in Carcinogenesis and Inflammation - **C. Funk** 105

9:30 a.m. Transfection of Rat Kidney with Human 15-Lipoxygenase Suppresses Inflammation and Preserves Function in Experimental Glomerulonephritis - **K.F. Badr** 106

10:00 a.m. **COFFEE BREAK**

*Selected Talks (15 mins. plus 5 min. discussion)*

10:30 a.m. Involvement of PGI<sub>2</sub> and PGE<sub>2</sub> in Acetic Acid-Induced Writhing Reaction of Mice - **S. Oh-ishi** 107

10:50 a.m. Osteoclast Formation is Inhibited in Marrow Cultures from COX-2 Knockout Mice - **C. Pilbeam** 108

11:10 a.m. The Development of COX-1/COX-2 Double Knockouts - **C. Loftin** 109

11:30 a.m. Role of Platelet-Activating Factor in Acid-Induced Lung Injury - **S. Ishii** 110

11:50 a.m. Effects on the Vascular Wall of Overexpression and Deficiency of Prostacyclin Synthase - **C. Yokoyama** 111

12:10 p.m. Dietary EPA Reduces Tumor Load in *Apc<sup>Min/+</sup>* Mice by Altering Arachidonic Acid Metabolism, but Conjugated Linoleic Acid, Gamma- and Alpha-Linolenic Acids Have No Effect - **J. Whelan** 112

**12:30-12:45 p.m.**

**CLOSING REMARKS**

**Charles Serhan and Kenneth Honn**

**Introducing next Local Organizing Chair, Larry Marnett**

**WEDNESDAY,  
SEPTEMBER 15**

**Page  
No.**

---

**SESSION 18                      LIPID-TARGET INTERACTIONS:  
STRUCTURE-FUNCTION CHEMISTRY**

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**Essex West**

Chair:            Dr. Leslie R. Ballou  
Co-Chair:       Dr. Peter F. Weller

*Invited Talks (25 mins. plus 5 min. discussion)*

9:00 a.m.                      Cellular Basis for Primed Eicosanoid Function in                      113  
Leukocytes - **P. Weller**

9:30 a.m.                      Regulation of Cyclooxygenase-1 and -2 in Knockout                      114  
Cells and Mice - **L. Ballou**

10:00 a.m.                      *COFFEE BREAK*

*Selected Talks (15 mins. plus 5 min. discussion)*

10:30 a.m.                      Increased Association of G-beta/gamma Subunits to                      115  
Phospholipase C-gamma1 in LTD<sub>4</sub> Stimulated Epithelial  
Cells - **C. Thodeti**

10:50 a.m.                      Leukotriene B4 Evokes the Pre-Nuclear Envelope                      116  
Breakdown Calcium Signal - **R. Silver**

11:10 a.m.                      Essential Role of Mitogen-Activated Protein Kinase                      117  
Pathway and c-Jun Induction in Epidermal Growth  
Factor-Induced Gene Expression of Human 12-Lipoxygenase -  
**W.-C. Chang**

11:30 a.m.                      Acetyl-11-keto-b-boswellic Acid is Cytotoxic for                      118  
Meningioma Cells and Inhibits Phosphorylation of  
the Extracellular-Signal Regulated Kinase 1 and 2 -  
**M. Golubic**

11:50 a.m.                      Intracellular Activation and Induction of 12-Lipoxygenase                      119  
in Mouse Peritoneal Macrophages - **H. Kawajiri**

**12:30-12:45 p.m.**

**CLOSING REMARKS**

**Charles Serhan and Kenneth Honn**

**Introducing next Local Organizing Chair, Larry Marnett**

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## POSTER SESSION I

---

POSTER NUMBER		PAGE NUMBER
1	Rapid Kinetics of Tyrosyl Radical Formation and Heme Redox State Changes in Prostaglandin H Synthase-1 and -2 - <b>A.-L. Tsai</b>	120
2	Celecoxib: A Specific COX-2 Inhibitor with Anti-Angiogenic and Anticancer Activities - <b>A. Koki</b>	121
3	PLIP, A Novel cPLA2-Interacting Protein, Increases Apoptosis Induced by Serum Deprivation and by TNF $\alpha$ , Enhances TNF $\alpha$ -Induced COX-2 Expression and has <i>in vitro</i> Histone Acetylase Transferase (HAT) Activity - <b>A. Sheridan</b>	122
4	Expression of 5-LO Activating Protein (FLAP) Enhances Albumin Permeability in Glomerular Endothelial Cells (GEC) - <b>A. Montero</b>	123
5	High Glucose (HG) -induced Synthesis of Transforming Growth Factor $\beta$ (TGF- $\beta$ ) in Glomerular Cells is Driven by F2-Isoprostane Formation - <b>A. Montero</b>	124
6	Comparison of Cyclooxygenase 1 and 2 Expression in Human Brain - <b>A. Yermakova</b>	125
7	Overexpression of c-FOS Enhances the Transcription of Human Arachidonate 12-Lipoxygenase in A431 Cells - <b>B.-K. Chen</b>	126
8	Pyrimidinone Potentiation of Macrophage Nitric Oxide Synthase Induction Requires Prostaglandin E <sub>2</sub> - <b>B.-C. Chen</b>	127
9	Polyisoprenyl Phosphate (PIPP) Signaling Regulates Phospholipase D and Superoxide Anion Generation in Human Neutrophils: Novel Intracellular "Stop" Signals - <b>B. Levy</b>	128
10	Regulation of CD36 Expression in Human Melanoma Cells - <b>C. Harmon</b>	129
11	Arachidonic acid Release Induced by LPS in Microglial Cells - <b>C. Guastadisegni</b>	130
12	Multiple Signaling Pathways Lead to the Activation of ERK 1/2 By 12(S)-HETE - <b>C. Szekeres</b>	131
13	Regulation of cyclooxygenase and 12-Lipoxygenase Catalysis by Phospholipid Hydroperoxide Glutathione Peroxidase in A431 Cells <b>C.-J. Chen</b>	132

---

## POSTER SESSION I

---

POSTER NUMBER		PAGE NUMBER
14	Shingosine-1-Phosphate and Dihydrophingosine-1-Phosphate Exert Potent and Long Lasting Contractile Effects on Isolated Rat Basilar But Not Carotid Artery - <b>C. Weber</b>	133
15	Lipoxin (LX)A and Aspirin-Triggered 15-epi-LXA4 Block Allergen-Induced Eosinophil Trafficking in Rats - <b>C. Bandeira-Melo</b>	134
16	Role of c-SRC in Regulation of Prostaglandin H Synthase-2 Induction by Dioxin - <b>C. Vogel</b>	135
18	Local and Systemic Delivery of a Stable Aspirin-Triggered Lipoxin Prevents Neutrophil Recruitment in vivo - <b>C. Clish</b>	136
19	Arachidonic Acid Induced c-fos mRNA Expression in Murine Macrophages - <b>D. Zhuang</b>	137
20	Thromboxane A2 Regulation of Angiogenesis and Tumor Metastasis - <b>D. Nie</b>	138
21	Development of a Competitive Immunometric Enzyme-Linked Immunosorbent Assay (ELISA) for the Major Human Urinary Metabolite of 15-F2T-Isoprostane, A Non-Invasive Biomarker for Oxidant Stress - <b>D. Callewaert</b>	139
22	Development of Immunoassays for 5,6-, 8,9-, 11, 12-, and 14,15-Epoxyeicosatrienoic Acids (EETs) and Corresponding Dihydroxy-Eicosatrienoic Acids (DHETs) - <b>D. Callewaert</b>	140
23	Apoptosis in Vascular Smooth Muscle Accompanied by Increases in Arachidonic Acid and Ceramide - <b>E. LaBelle</b>	141
24	Effects of COX-2 Inhibitors on Aortic Prostacyclin Production in Cholesterol-Fed Rabbits - <b>E. Wong</b>	142
25	Arachidonate-Phospholipid Remodeling in Human Lymphocytes - <b>E. Boilard</b>	143
26	Leukotriene A4 Hydrolase is an Arginyl-aminopeptidase with a Unique Epoxide Hydrolase Activity - <b>F. Kull</b>	144

---

## POSTER SESSION I

---

POSTER NUMBER		PAGE NUMBER
27	Anti-atherogenic effect of 15-lipoxygenase Overexpression In Rabbit Atherosclerosis Models - <b>H. Kuhn</b>	145
28	Transcriptional Regulation of 15-Lipoxygenase in Human Colorectal Carcinoma Cells by Histone Deacetylase Inhibitors - <b>H. Kamitani</b>	146
30	Involvement of Type 2A Phospholipase A2 and Cyclooxygenase-2 In Zymo-San-Induced Pleurisy of Rats - <b>H. Naraba</b>	147
31	Effect of PPAR Activators on Cytokine-Stimulated COX-2 Induction in Human Colorectal Carcinoma Cells - <b>H. Ikawa</b>	148
32	Type 2A sPLA2-Mediated Delayed PGE2 Biosynthesis is Regulated by the Product(s) of the cPLA2 and 12-Lipoxygenase Pathway - <b>H. Kuwata</b>	149
33	Novel Four Selective Agonists for Prostaglandin E Receptor Subtypes - <b>H. Yamamoto</b>	150
34	Prostaglandin E2 both Stimulates and Inhibits Mouse Platelets Aggregation: Comparison Among the Effects of EP1, EP2, EP3 and EP4 Prostaglandin E2 Receptor Subtypes - <b>H. Ma</b>	151
35	Nitration of Cytochrome C After Treatment with Peroxynitrite: A Putative Anti-Apoptotic Pathway Mediated by Prostaglandin H Synthase-2 (PGHS-2)/Inducible Nitric Oxide (NO) Synthase - <b>H. Kim</b>	152
36	Modulation of COX-2 Expression by Hyperoxia, Nitric Oxide and Endothelin-A Receptor Antagonist - <b>J. Youssef</b>	153
37	TNF- $\alpha$ -Induced Expression of Mitogen-Inducible Cyclooxygenase is Mediated Through NF $\kappa$ B and Mitogen-Activated Protein Kinases (MAPKS) Signaling Pathways - <b>J. Paik</b>	154
38	The Distribution of Oxylipins in the Yeast <i>Dipodascopsis Uninucleata</i> as Investigated by Immunofluorescence and Electron Microscopy - <b>J. Kock</b>	155
39	COX-1, COX-2 and $\beta$ -Catenin in the Gut. An Immunohistochemical Study - <b>J. Freeman</b>	156

---

## POSTER SESSION I

---

POSTER NUMBER		PAGE NUMBER
40	Discovery and Development of COX-2 Specific Inhibitors - <b>K. Seibert</b>	157
41	Characterization of cPLA2 Activity by Mutagenesis - <b>K. Underwood</b>	158
42	Transcriptional Regulation of Human Leukotriene B4 Receptor - <b>K. Kato</b>	159
43	Suppression of Cyclooxygenase-2 Gene Transcription by Humulon - <b>K. Yamamoto</b>	160
44	Enhanced Immune Responses in Mice Lacking the Thromboxane A2 Receptor - <b>K. Kabashima</b>	161
45	Interactions of 12-Lipoxygenase with Cellular Proteins - <b>K. Tang</b>	162
46	15-Lipoxygenase and Programmed Organelle Degradation in the Reticulocyte - <b>K. van Leyen</b>	163
47	Identification of Diacylglycerol Kinase Isoforms in Neutrophils from LJP Patients - <b>K. Oyaizu</b>	164
48	Linoleate Diol Synthase and PGH Synthases - A New Gene Family of Fatty Acid Heme Dioxygenases? - <b>L. Hornsten</b>	165
49	Introduction of Full-Length APC Modulates Cyclooxygenase-2 Expression in HT-29 Human Colorectal Carcinoma Cells at the Translational Level - <b>L. Hsi</b>	166
50	Dexamethasone-Induced Up Regulation of 5-Lipoxygenase in the Human Mast Cells HMC-1 - <b>L. Macchia</b>	167
51	Amyloid-Beta Induces Cyclooxygenase-2 Expression and Activity in Brain-Derived Cells - <b>M. Hilfers</b>	168
52	Prostacyclin Synthesis in Rat Aorta and Vein - <b>M. Shimonishi</b>	169
53	Lipoxin A4, and Aspirin-Triggered 15-epi-LXA4 Inhibit tnfa- Initiated Neutrophil Responses and Trafficking: Regulators of a Cytokine-Chemokine Axis - <b>M. Pouliot</b>	170
54	Lipoxygenases in Human and Bovine Corneal Epithelia - <b>M. Liminga</b>	171
55	Differential Regulation of Prostaglandin Endoperoxide Synthase Activity by Nitric Oxide in Activated Macrophages - <b>M.-F. Vesin</b>	172

## POSTER SESSION II

---

POSTER NUMBER		PAGE NUMBER
1	A Proposed Three Step Mechanism for Inhibition Cyclooxygenase-2 - <b>M. Walker</b>	173
2	Epstein-Barr Virus Suppresses PGE2 Release in Human Monocytes - <b>M. Savard</b>	174
3	Ascites Fluid Induces Epithelial Proliferation and Increases Vascular Permeability in the Chorioallantoic Membrane - <b>M. Richardson</b>	175
4	Expression and Characterization of Human Prostacyclin Synthase - <b>M. Wada</b>	176
5	Role of Prostaglandin E Receptors in LPS-Induced ACTH Release - <b>Y. Matsuoka</b>	177
6	Expression of Cyclooxygenase and Regulation by Interleukin-1b in Human Osteoarthritis Tissues - <b>M. Hardy</b>	178
7	Epstein-Barr Virus Infects and reduces Phagocytic Activity in Human Monocytes - <b>M. Tardiff</b>	179
8	Pharmacological Profile of PAC10549, A Novel Selective Cyclooxygenase-2 Inhibitor - <b>M.-S. Noh</b>	180
9	Identification of Two Amino Acids Critical for the Positional Specificity of Mouse 8S-Lipoxygenase: Mutation to the 15- Lipoxygenase-2 Sequence Changes Specificity to Oxygenation at C-15 - <b>M. Jisaka</b>	181
10	Role of Dietary Pantothenic Acid (Vitamin B5) in Brain Oxidative Stress Effect on F4-Neuroprostane Production - <b>M. Badr</b>	182
11	Isoprostane Generation in Chronic Heart Failure - <b>M.P. Reilly</b>	183
12	12(S)-HETE Regulation of Nuclear Factor Kappa B PC3 Prostate Cancer Cells - <b>M. Kandouz</b>	184
13	Characterization of Arachidonate 8-Lipoxygenase Expressed in COS-7 and Escherichia Coli - <b>N. Qiao</b>	185
14	Aspirin-Triggered 15-EPI-Lipoxin A4 (ATL) Generation by Human Leukocytes and Murine Peritonitis Exudates: Development of a Specific 15-EPI-LXA4 ELISA - <b>N. Chiang</b>	186

## POSTER SESSION II

POSTER NUMBER		PAGE NUMBER
15	Identification of a Human Enterocyte Lipoxin A Receptor that is Regulated by IL-13 and IFN- $\gamma$ and Inhibits TNF- $\alpha$ -Induced IL-8 Release - <b>K. Gronert</b>	187
16	Inhibition of Leukotriene Biosynthesis in Human Neutrophils by Histamine: A H2 Receptor and Cyclic AMP Mediated Phenomenon - <b>N. Flammand</b>	188
17	Suppression of Platelet-Type 12-Lipoxygenase in Uterine Cervix of Patients with Invasive Carcinoma - <b>S. Nigam's lab</b>	189
18	Ingestion of Repeatedly Heated Edible Oil Activates Phospholipase A2 and Protein Kinase C in Rat Liver, Kidney and Colonic Mucosa - <b>S. Nigam's lab</b>	190
19	Studies of the Liberation of Arachidonic Acid and Leukotriene B4 Synthesis in FMLP-Challenged Human Neutrophils: Interaction Between Cytosolic Phospholipase A2 and Phospholipase - <b>S. Nigam's lab</b>	191
20	Molecular Cloning and Characterization of the cDNA for Coral Cyclooxygenase - <b>N. Samel</b>	192
21	Chemical Probes that Differentially Modulate PPAR $\alpha$ and BLTR, Nuclear and Cell Surface Receptors for Leukotriene B4 - <b>P. Devchand</b>	193
22	Formation and Pharmacological Modulation of Leukotrienes in A Model of Focal Cerebral Ischemia in the Rat - <b>P. Ciceri</b>	194
23	Lipid Mediator Interactions in Inflammation - <b>P. Hedqvist</b>	195
24	Epidermis-Type Lipoxygenases - <b>P. Krieg</b>	196
25	Activation of Leukotriene Biosynthesis in Human Neutrophils by Exogenous Arachidonic Acid: Inhibition by Adenosine A2a Receptor Antagonists and Crucial Role of Autocrine Activation by Leukotriene B4 - <b>P. Borgeat</b>	197
26	The Production of 3-Hydroxy Fatty Acids by Yeast - <b>P. Venter</b>	198
27	Ultrastructural Evidence for Oxylin-lectin-Mediated Cell Adherence and Aggregation - <b>P. W. J. van Wyk</b>	199
28	Lipoxygenase Products of Murine Peritoneal Macrophages at Different Levels of Activation - <b>S. Ruggieri</b>	200
	Platelet Activating Factor Produced by Transformed Cell Lines of Different Origins - <b>S. Ruggieri</b>	201

## POSTER SESSION II

---

POSTER NUMBER		PAGE NUMBER
29	Induction of Apoptosis in Native Mouse T Cells Upon Peroxisome Proliferator-Activated Receptor Gamma (PPAR- $\gamma$ ) Binding - <b>S. Harris</b>	202
30	Role of Platelet-Activating Factor in Acid-Induced Lung Injury - <b>S. Ishii</b>	203
31	The Activation of a Calcium <sup>2+</sup> -Independent Isoform of PKC is Involved in LTD4 Transduction Mechanism in Human Bronchi - <b>S. Ravasi</b>	204
32	Antitumor Effect, Toxicity and Pharmacokinetics of 13,14-Dihydro-15-Deoxy- $\Delta^7$ -PGA <sub>1</sub> Methylster (TEI-9826) Integrated in Lipid Microsphere Continuous Intravenous Infusion in Rat - <b>S. Fukushima</b>	205
33	Expression of Cyclooxygenase-2 in Human Bladder and Renal Cell Carcinoma - <b>S. Hara</b>	206
34	Dietary Phospholipids in Chronic Eczema - <b>S. B. Pokrovskaya</b>	207
35	Different Enzymes of Porcine Brain Hydrolyzing 2-Arachidonoylglycerol, an Endogenous Ligand for Cannabinoid Receptors - <b>S.K. Gopapaju</b>	208
36	8(S)-Lipoxygenase Products Activate PPAR- $\alpha$ , Induce Differentiation and Enhance Skin Tumor Development - <b>S. Muga</b>	209
37	Cyclooxygenase-2 Expression and Cerebral Endothelium: A Delayed Effect of Bradykinin on Cerebral Blood Vessels - <b>S. A. Moore</b>	210
38	Role of the 14 KDA PLA2 in Prostaglandin Production and Lymphocyte Proliferation in Sepsis - <b>S. Lanza-Jacoby</b>	211
39	Analysis of the Transcriptional Regulation of Mouse Prostacyclin Synthase Gene - <b>S. Ohkawara</b>	212
40	Telomerase Activity in Mouse Skin Using Topical Anti-Inflammatory Drugs and Sunblocks - <b>S. Nune</b>	213
41	PGE2 Accelerates Disposal of Aggregated Protein via Prostaglandin E2 Receptor Subtype EP4 in Glomeruli - <b>T. Nagamatsu</b>	214
42	Demonstration of Patho-Physiological Roles of PGE2 Receptor EP4 Subtype Using a Novel EP4 Subtype Selective Agonist, ONO-AE1-329 - <b>T. Maruyama</b>	215

## POSTER SESSION II

---

POSTER NUMBER		PAGE NUMBER
43	Novel 2 Types of Orally Activated EP1 Receptor Antagonists <b>T. Maruyama</b>	216
44	EP1 Receptor Antagonists Suppress Tactile Allodynia in Rats - <b>T. Maruyama</b>	217
45	Cyclooxygenase-2 Induction in Rat Spinal Cord Injury Mediated by Proinflammatory Tumor Necrosis Factor- $\alpha$ and Interleukin-1 - <b>T. Tonai</b>	218
46	Inhibition of Ultraviolet Light B-induced Cutaneous Inflammation by a Specific Cyclooxygenase-2 (COX-2) Inhibitor - <b>T. M. Oberyszyn</b>	219
47	Effect of Selective Cyclooxygenase-2 Inhibitor Nimesulide on Kainate-Induced Seizures in the Rat Brain - <b>T. Kunz</b>	220
48	Role of Prostanoid Receptors in Colon Carcinogenesis - <b>T. Kawamori</b>	221
49	Mice Lacking the Prostaglandin D Receptor Are Resistant to Eosinophil Recruitment and Airway Hypersensitivity in Bronchial Asthma Induced by Ovalubmin - <b>T. Matsuoka</b>	222
50	Ku 70/80 Lupus Autoantigen is the Transcription Factor Induced by Interleukins (IL)-13 and IL-4 Leading to Induction of 15-Lipoxy- genase-1 (15-LO) in Human Cells - <b>U.P. Kelavkar</b>	223
51	Divergence in Intracellular Signaling Between Interleukin-4 (IL-4) and IL-13 in Human Cells Localizes to Monomeric/Dimeric Expression of a Transcription Factor, the Lupus KU Autoantigen 70/80, Induced by Both Cytokines - <b>U.P. Kelavkar</b>	224
52	Selective Intra-Arterial Infusion of Gamma-Linolenic Acid Induced Specific Anti-Angiogenic and Anti-Cancer Actions - <b>U. Das</b>	225
53	Identification and Characterization of Contact Sites Between Thromboxane A <sub>2</sub> Receptor and G $\alpha_q$ Important for Signal Transduction Impairment - <b>V. Capra</b>	226
54	L-Selectin-Induced Release of Arachidonic Acid in HL60-cells and Human Neutrophils - <b>V. Patcha</b>	227
55	Catalytic Activity of Human 12R-Lipoxygenase and its Expression in Psoriasis and Tonsils - <b>W. Boeglin</b>	228

## POSTER SESSION II

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POSTER  
NUMBER

PAGE  
NUMBER

- |    |   |     |
|----|---|-----|
| 56 | Overexpression of Prostaglandin D Synthase Caused Pronounced Eosinophilic Lung Inflammation in Response to Antigen Challenge in Sensitized Mice - <b>Y. Fujitani</b>      | 229 |
| 57 | 5' Gene Structure and Transcriptional Regulation of the CYP4F1 Rat Liver Tumor Gene - <b>Y. Wu</b>  | 230 |
| 58 | Identification of a Cellular Protein that Functionally Interacts with Cytosolic Phospholipase A <sub>2</sub> α - <b>Y. Nakatani</b>                                       | 231 |
| 59 | The Effect of Quercetin on the Adhesion of Neutrophils to Endothelial Cells Induced by TNFα - <b>Z. Wong</b>  | 232 |
| 60 | Characterization of Cyclooxygenase-2 in Human Pathological Disease - <b>A. Koki</b>   | 233 |
| 61 | Structural Studies of Arachidonamide Metabolism by Cyclooxygenase (COX) - <b>K. Kozak</b>   | 234 |
| 62 | The Altered Expression of Gab1 During Neoplastic Progression: A Possible Regulator of the Altered Responsiveness to Growth Factors and Lipid Mediators - <b>H. Kameda</b> | 235 |

